

WHAT IS CLAIMED IS:

1. A gold-based composition on a support based on at  
5 least one reducible oxide, characterized in that its  
halogen content expressed by the halogen/gold molar ratio  
is equal to or lower than 0.05, in that the gold is  
present in the form of particles equal to or lower than  
10 nm in size, and in that it has undergone a reducing  
treatment, to the exclusion of compositions with supports  
in which the only reducible oxide or oxides is/are cerium  
oxide, cerium oxide in combination with zirconium oxide,  
cerium oxide in combination with praseodymium oxide,  
cerium oxide in combination with titanium dioxide or  
15 stannous oxide in a Ti/Ce or Sn/Ce atomic proportion  
lower than 50%.

2. The composition as claimed in claim 1,  
characterized in that the support is based on at least  
20 one oxide selected from titanium dioxide, manganese  
dioxide, ferric oxide or stannous oxide.

3. The composition as claimed in either of claims 1  
and 2, characterized in that its halogen content is equal  
25 to or lower than 0.04 and more particularly equal to or  
lower than 0.025.

4. The composition as claimed in one of the  
preceding claims, characterized in that the gold is  
30 present in the form of particles equal to or lower than 3  
nm in size.

5. The composition as claimed in one of the  
preceding claims, characterized in that the halogen is  
35 chlorine.

6. The composition as claimed in one of the preceding claims, characterized in that the gold content is equal to or lower than 5%, more particularly equal to  
5 or lower than 1%.

7. The composition as claimed in one of the preceding claims, characterized in that it furthermore comprises at least one other metal element selected from  
10 silver, platinum, palladium and copper.

8. The composition as claimed in claim 7, characterized in that the other abovementioned metal element is present in a quantity equal to or lower than  
15 400%, more particularly between 5% and 50%, compared with the gold.

9. A method for preparing a composition as claimed in one of the preceding claims, characterized in that it  
20 comprises the following steps:

- a compound based on at least one reducible oxide is contacted with a gold-halide-based compound and, if applicable, a compound based on silver, platinum, palladium or copper, forming a suspension of these  
25 compounds, the pH of the medium thereby formed being fixed at a value of at least 8;

- the solid is separated from the reaction medium;

- the solid is washed with a basic solution;

the method furthermore comprising a reducing treatment  
30 before or after the abovementioned washing step.

10. The method as claimed in claim 9, characterized in that the pH of the medium formed is maintained at the value of at least 8 during the formation of the  
35 suspension of the compound based on at least one

reducible oxide and of the gold-halide-based compound and, optionally, of the compound based on silver, platinum, palladium or copper, by the addition of a basic compound.

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11. The method as claimed in either of claims 9 and 10, characterized in that the solid obtained is washed with a basic solution with a pH of at least 8, preferably of at least 9.

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12. A method for preparing a composition as claimed in one of claims 1 to 8, characterized in that it comprises the following steps:

- gold and, if applicable, silver, platinum, palladium or
- 15 copper are deposited on a compound based on at least one reducible oxide by impregnation or by ion exchange;
- the solid issuing from the preceding step is washed with a basic solution with a pH of at least 10;
- the method furthermore comprising a reducing treatment
- 20 before or after the abovementioned washing step.

13. The method as claimed in one of claims 9 to 12, characterized in that the reducing treatment takes place with a reducing gas at a temperature not higher than

25 200°C, preferably not higher than 180°C.

14. The method as claimed in one of claims 9 to 13, characterized in that the solid obtained after the reducing treatment is subjected to calcination at a

30 temperature not higher than 250°C.

15. A method for oxidizing carbon monoxide, characterized in that a composition as claimed in one of claims 1 to 8 or a composition obtained by the method as

35 claimed in one of claims 9 to 14 is used as catalyst.

16. The method as claimed in claim 15, characterized  
in that it is employed for the treatment of a tobacco  
smoke, in the water gas shift reaction, in the treatment  
5 of reforming gases (PROX).

17. A method for purifying air, this air containing  
at least one compound of the type carbon monoxide,  
ethylene, aldehyde, amine, mercaptan, ozone, of the type  
10 of volatile organic compounds or atmospheric pollutants  
and of the type of malodorous compounds, characterized in  
that the air is contacted with a composition as claimed  
in one of claims 1 to 8 or a composition obtained by the  
method as claimed in one of claims 9 to 14.

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18. A cigarette filter, characterized in that it  
contains a composition as claimed in one of claims 1 to 8  
or a composition obtained by the method as claimed in one  
of claims 9 to 14.